App. Nr.: 10/769,698

CLAIM AMENDMENTS

Claims 1-26 (canceled).

Claim 27 (new): A method for preparing polyisoprene emulsion articles, comprising the steps of:

- (a) preparing an aqueous polyisoprene emulsion, wherein said polyisoprene emulsion is prepared by a co-polymerization through mixing monomer selected from a group consisting of styrene, acrylates, and organic carboxylic acid with isoprene monomer, wherein said acrylate is one or more compounds selected from a group consisting of methyl acrylate, ethyl acrylate, butyl acrylate, iso-octyl acrylate, methyl methacrylate, and butyl methacrylate;
- (b) blending water-dispersible vulcanization auxiliaries with said aqueous polyisoprene emulsion to form a blended polyisoprene emulsion;
 - (c) aging said blend polyisoprene emulsion;
 - (d) adding coagulant into said blended polyisoprene emulsion; and
- (e) dip-molding said blended polyisoprene emulsion into polyisoprene latex articles.

Claim 28 (new): The method as recited in claim 27, wherein said organic carboxylic acid is one or more compounds selected from a group consisting of acrylic acid, methacrylic acid, maleic acide, fumaric acid, and methylenebutene dicarboxylic acide.

Claim 29 (new): The method as recited in claim 28, wherein the step (a) further comprises the steps of:

- (a.1) charging a portion of said monomers together with an initiator and an emulsifier into a reactor to form a mixture;
 - (a.2) reacting said mixture for 30 to 60 minutes at room temperature;

- (a.3) adding dropwise remaining portion of said monomers and other raw materials into said reactor for 3 to 6 hours; and
 - (a.4) reacting said mixture under a nitrogen atmosphere for 12 to 40 hours.

Claim 30 (new): The method as recited in claim 29, wherein in the step (a.1), said emulsifier, which is a combination of an anionic emulsifier and non-ionic emulsifier, is selected from a group consisting of sodium dodecyl sulfate, sodium dodecanesulphonate, and OS emulsifier, wherein said non-ionic emulsifier is nonylphenol polyethylene glycol oxide.

Claim 31 (new): The method as recited in claim 30, wherein in the step (a.1), an amount of said emulsifier is 5 to 30% by weight, based on total amounts of said monomers.

Claim 32 (new): The method as recited in claim 30, wherein in the step (a.1), said initiator used for polyisoprene emulsion polymerization is a redox system, wherein an oxidant is selected from a group consisting of water-soluble presulfate and an oil-soluble peroxide, wherein a reductant is selected from a group consisting of sodium bisulfite, iron(II) sulfate, wherein an amount of said initiator is 0.3 to 3% by weight based on a total amounts of said monometers.

Claim 33 (new): The method as recited in claim 30, wherein the step (a) further comprises a step of adding a co-reductant, a complexing agent and a precipitating agent to maintain a concentration of a ferrous iron (II) ion for ensuring a steady reaction, wherein said co-reductant includes formaldehyde sulfoxylate, wherein said complexing agent is ethylenediamine trtraacetic acide, wherein said precipitating agent is pyrophosphates.

Claim 34 (new): The method as recited in claim 30, wherein in the step (b), said water-dispersible vulcanization auxiliaries are selected from a group consisting of vulcanizators, vulcanization accelerators, and age inhibitors, wherein said vulcanizator is sulfur, wherein said vulcanization accelerator includes sulfenamides and thiurams with an amount of 0.5 to 10% by weight based on an amount of said polyisoprene emulsion.

Claim 35 (new): The method as recited in claim 30, wherein in the step (d), said coagulant is a mixture of cationic salts and auxiliaries, wherein said cationic salts is selected from a group consisting of hydrochlorides and nitrates of calcium ion, zinc ion, and aluminum ion, wherein an amount of said coagulant is 10 to 30% by weight based on an amount of said polyisoprene emulsion.

Claim 36 (new): The method as recited in claim 30, wherein the step (e) further comprises a step of drying said polyisoprene articles at 60 to 170°C.

Claim 37 (new): A method for preparing polyisoprene emulsion articles, comprising the steps of:

- (a) preparing an aqueous polyisoprene emulsion, wherein said polyisoprene emulsion is prepared by free radical emulsion polymerization from isoprene monomers under a normal pressure;
- (b) blending water-dispersible vulcanization auxiliaries with said aqueous polyisoprene emulsion to form a blended polyisoprene emulsion;
 - (c) aging said blend polyisoprene emulsion;
 - (d) adding coagulant into said blended polyisoprene emulsion; and
- (e) dip-molding said blended polyisoprene emulsion into polyisoprene latex articles.

Claim 38 (new): The method as recited in claim 37, wherein the step (a) further comprises the steps of:

- (a.1) charging a portion of said monomers together with an initiator and an emulsifier into a reactor to form a mixture;
 - (a.2) reacting said mixture for 30 to 60 minutes at room temperature;
- (a.3) adding dropwise remaining portion of said monomers and other raw materials into said reactor for 3 to 6 hours; and
 - (a.4) reacting said mixture under a nitrogen atmosphere for 12 to 40 hours.

Claim 39 (new): The method as recited in claim 38, wherein in the step (a.1), said emulsifier is a combination of an anionic emulsifier and non-ionic emulsifier, is selected from a group consisting of sodium dodecyl sulfate, sodium dodecanesulphonate, and OS emulsifier, wherein said non-ionic emulsifier is nonylphenol polyethylene glycol oxide.

Claim 40 (new): The method as recited in claim 39, wherein in the step (a.1), an amount of said emulsifier is 5 to 30% by weight, based on total amounts of said monomers.

Claim 41 (new): The method as recited in claim 39, wherein in the step (a.1), said initiator used for polyisoprene emulsion polymerization is a redox system, wherein an oxidant is selected from a group consisting of water-soluble presulfate and an oil-soluble peroxide, wherein a reductant is selected from a group consisting of sodium bisulfite, iron(II) sulfate, wherein an amount of said initiator is 0.3 to 3% by weight based on a total amounts of said monometers.

Claim 42 (new): The method as recited in claim 39, wherein the step (a) further comprises a step of adding a co-reductant, a complexing agent and a precipitating agent to maintain a concentration of a ferrous iron (II) ion for ensuring a steady reaction, wherein said co-reductant includes formaldehyde sulfoxylate, wherein said complexing agent is ethylenediamine trtraacetic acide, wherein said precipitating agent is pyrophosphates.

Claim 43 (new): The method as recited in claim 39, wherein in the step (b), said water-dispersible vulcanization auxiliaries are selected from a group consisting of vulcanizators, vulcanization accelerators, and age inhibitors, wherein said vulcanizator is sulfur, wherein said vulcanization accelerator includes sulfonamides and thiurams with an amount of 0.5 to 10% by weight based on an amount of said polyisoprene emulsion.

Claim 44 (new): The method as recited in claim 39, wherein in the step (d), said coagulant is a mixture of cationic salts and auxiliaries, wherein said cationic salts is selected from a group consisting of hydrochlorides and nitrates of calcium ion, zinc ion, and aluminum ion, wherein an amount of said coagulant is 10 to 30% by weight based on an amount of said polyisoprene emulsion.

Claim 45 (new): The method as recited in claim 39, wherein the step (e) further comprises a step of drying said polyisoprene articles at 60 to 170°C.

Claim 46 (new): A polyisoprene emulsion having an average molecular weight of 10⁴ to 10⁵, a pH value of 6.0 to 7.0, a viscosity of 5 to 20cp at 25°C, a solid content of 30 to 50 %, and a colloidal particle size of 100 to 200nm, wherein said polyisoprene emulsion is made from 60 to 100 parts by weight of isoprene monomer and 5 to 50 parts by weight of one or more monomers selected from a group consisting of styrene, acrylates and organic carboxylic acids.

Claim 47 (new): The polyisoprene emulsion, as recited in claim 46, containing 10 to 50% of said styrene by weight.

Claim 48 (new): The polyisoprene emulsion, as recited in claim 47, containing 10 to 50% of said acrylate by weight.

Claim 49 (new): The polyisoprene emulsion, as recited in claim 48, containing 1 to 10% of said organic carboxylic acids by weight.